



**User's Manual**

# **LKR-604**

## **4 Port Broadband Router**

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### **User's Manual**

**Revision C**

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# 1 Introduction

Congratulations on purchasing Broadband Router. This router, is a high quality and reliable Internet routing device, enables multiple users to share the internet connection through a Cable or DSL modem. Simply install the router, connect to Cable/DSL modem, and surf Internet without extra efforts. Acting as a 10/100Mbps 4-port Ethernet switch as well, the router, with all ports supporting MDI/MDIX, allows you to use CAT5 cable to uplink to other routers/switches. The router provides a total solution for the Small and Medium-sized Business (SMB) and the Small Office/Home Office (SOHO) markets, giving you an instant network today, and the flexibility to handle tomorrow's expansion and speed.

## 1.1 Features

Network Address Port Transmission (NAPT) support

Supports PPPoE and PPTP protocol for Dial-Up ADSL

Supports up to 253 users

Supports UPnP (Universal Plug and Play)

Supports DMZ and virtual server mapping

Supports packet filtering

Simple Firewall protection

Upgradeable firmware for future functions

Easy configuration via Web Browser.

## 1.2 Package Contents

One LKR-604 4-Port Broadband Router

One external power adapter

One CD-ROM with User's Manual

One Quick Installation Guide

One RJ-45 Ethernet Cable

## 1.3 Finding Your Way Around

### 1.3.1 Front Panel

The front panel contains LED indicators that show the status of the unit.



LED	Color	Indication
POWER	Green	Power in on, otherwise, power is off
WAN	Green	The WAN port is connected to an xDSL/Cable modem successfully.
	Green(blinks)	The WAN port is transmitting data to or receiving data from the xDSL/Cable modem.
LAN(Link/Act)	Green	The port 1 - 4 indicators light green when they're connected to a 100Mbps Fast Ethernet station.
	Green(blinks)	The corresponding LAN port is transmitting or receiving data.

### 1.3.2 Rear Panel and Side Panel

The rear and side panel contain the ports for the unit's data and power connections.



RESET	Use a pin-shaped object to reset this device to factory default settings. Resetting the device will also reset the login password to the default.
LAN (1-4)	Four RJ-45 10/100Mbps Auto-MDIX ports for connecting to either 10Mbps or 100Mbps Ethernet connections.
WAN	On the 4 port broadband router, there is an RJ-45 10/100Mbps Auto-MDIX WAN port. This port connects to your xDSL/Cable modem.
POWER	Connects the supplied AC adapter to the power input jack.

## 1.4 System Requirements

- One or more PCs (desktop or notebook) with Ethernet interface.
- TCP/IP protocol must be installed on all PCs.
- Have valid Internet Access account and a DSL/Cable modem.
- 10/100BaseT Ethernet network cable with RJ-45 connector.
- System with Microsoft Internet Explorer 6.0 or higher.

## 1.5 Installation Instruction

- 1) Power off the router and DSL/Cable modem.
- 2) Connect systems to the LAN ports on the router with straight Ethernet LAN cables.
- 3) Connect the DSL /Cable modem to the WAN port on the router.
- 4) Power on DSL/Cable modem firstly, wait for a minute until the modem is ready then power on the router.
- 5) Check LEDs:
  - a) Once power on the router, Power LED should be on.
  - b) LAN LED should be on for each active LAN connection.
  - c) The WAN LED should be on when the DSL/Cable modem is connected.

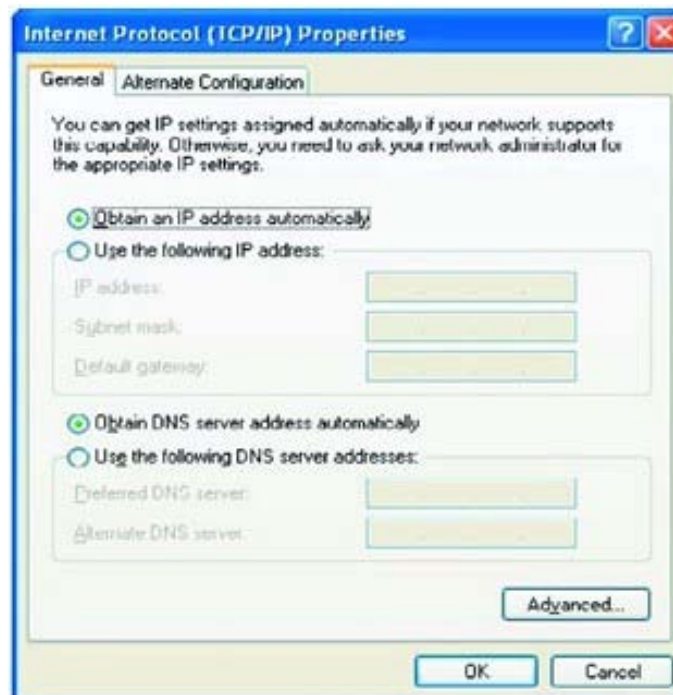
## 2 PC Configuration

### 2.1 Checking TCP/IP Settings for Windows XP

a) Click “Start”, select “Control Panel → Network Connection” and right click “Local Area Connection” then select “Properties”, the window shown as below will appear.



b) Select the “Internet Protocol (TCP/IP)” for the network card on your system, then click “Properties”, the window below will appear.



- If you decide to use IP address from the router, select “Obtain an IP address automatically”.
- If you decide to use the desired IP address, select “Use the following IP address”, and enter the



- correct addresses in “IP Address” and “Subnet Mask” fields.
- You'd better set the router's IP address as “Default Gateway”.
  - If the DNS Server fields are empty, select “Use the following DNS server addresses” and enter the DNS address provided by your ISP, then click “OK”.

### 3 Setup Router Configurations via Web Browser

The router comes with a web-based configuration utility. Users can access this configuration utility from any of client system within Broadband Router's LAN. For best results, either use Microsoft Internet Explorer 6.0 or higher.

Before you start configuring your router, you have to get the following information from your ISP:

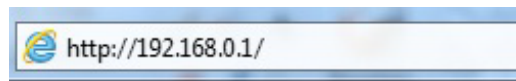
- a) Has your ISP assigned you a static IP address, or they will assign one to you dynamically? If you have received a static IP address, what is it?
- b) Does your ISP use PPPoE? If so, what is your PPPoE username and password?

If you are not sure of above questions, please contact your ISP.

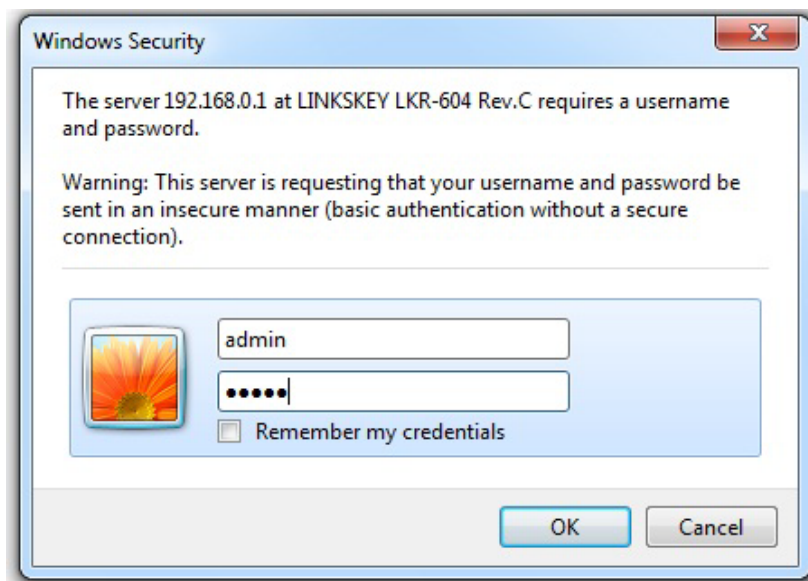
#### 3.1 Start your Web Browser

To use the Web-Based Utility, you have to launch your Internet Explorer 6.0 or higher.

**Step1:** Enter the default IP address of Broadband Router **http://192.168.0.1** in the Address box and then press **Enter**.



**Step2:** When the following dialog box appears, type in **admin** as User Name and the default password is also **admin**, then click **OK**.



## 3.2 Quick Setup

It is recommended that you use Quick Setup if you are a beginner. It will lead you through the configuration step-by-step.

**Step1:** Select the appropriate Time Zone so your system clock can synchronize itself through the SNTP Server.

The screenshot shows the 'Quick Setup' wizard interface. At the top, there are navigation tabs: 'Quick Setup', 'Admin', 'WAN', 'LAN', 'NAT', 'Firewall', 'Routing', 'QoS', 'Misc', and 'Sta'. Below these is a 'Wizard' sub-tab. The main content area is titled 'HOST Settings' and contains the following fields:

- Host Name:** A text input field containing 'router'.
- Time Zone:** A dropdown menu showing '(GMT+08:00) Hong Kong, Perth, Singapore, Taipei'.
- Daylight Saving:** A checkbox labeled 'Enabled' which is currently unchecked. To its right are two sets of dropdown menus: 'From FEB 2 to FEB 2'.
- Function Mode:** A dropdown menu showing 'Router'.

At the bottom of the form is a large grey button labeled 'Next'.

**Host Name:** Enter a hostname provided by the ISP (Default: router).

**Time Zone:** Select the time zone of the country you are in. The router will set the time based on your selection.

**Daylight Saving:** The router can also take Daylight Saving into account. If you wish to use this function, you must check/tick the enable box to enable your daylight saving configuration.

**Fuction Mode:** Default setting is Router.

**Step2:** The following window allows user to specify the WAN connection type, you can choose Auto Detect or Manual Select.

The screenshot shows the 'WAN Mode' configuration screen. At the top, it says 'Specify the WAN connection type required by your Internet Service Provider. Please select your WAN connection from the following:'. Below this are two radio buttons: 'Auto Detect' (which is selected) and 'Manual Select'. A horizontal line separates this from the next section. Below the line, there is a text input field labeled 'Auto detect result :', a 'Detect' button, and at the bottom, 'Back' and 'Next' buttons.

**Auto Detect:** This feature can help you Auto Detect WAN connection type.

**Manual Select:** You can specify the WAN connection type.

**Step3:** The following window allows user to specify the WAN connection type, such as Dynamic IP Address, Static IP, or PPPoE. After you setup the connection settings, click Next to update the DNS settings.

**WAN Mode**

Specify the WAN connection type required by your Internet Service Provider. Please select your WAN connection from the following:

Auto Detect  Manual Select

Dynamic IP Address  
 Static IP  
 PPPOE  
 PPTP  
 L2TP  
 BigPond

Back Next

**Dynamic IP Address:** Automatic access to service provider offer dynamic IP addresses to network.

**Static-IP:** If you are using fixed IP Internet connection method, click static-IP to enter the IP address and gateway address provided by your ISP.

**PPPoE:** If you are using PPPoE Internet connection method, click PPPoE to enter the login information provided by your ISP.

**PPTP:** If you are using PPTP Internet connection method, click PPTP to enter the login information provided by your ISP.

**L2TP:** If you are using L2TP Internet connection method, click L2TP to enter the login information provided by your ISP.

**BigPond:** If you are using BigPond Internet connection method, click BigPond to enter the login information provided by your ISP.( BigPond is an ISP in Australia)

**Step4:** The following window allows user to select the DNS Server.

**DNS Server**

Static DNS Server  Enabled

Primary DNS

Secondary DNS

Back Finish

You can update the DNS settings only if you enabled the DNS server under the WAN configuration page. After you change the DNS configurations, click Finish to update the DNS settings of the router. Click the **Finish** button will be submitted to the router and set down effect.

In the configuration of the status bar, you can view the information about the router. The router-related information is in the next chapters.

### 3.3 Admin

The Admin window configures the Management of the router basic settings, such as the router's Management, System Settings, Firmware Configuration, Tools, Language, Log Settings and Logout.

#### 3.3.1 Management

The screenshot shows the 'Admin' window with the 'Management' tab selected. The 'Login Account' section includes fields for User Name (admin), Current Password, New Password, Re-type Password, and Idle Time Out (300 seconds). The 'Remote Management' section includes a checkbox for Enabled (unchecked), IP Address (0.0.0.0), and Port (8080). A 'Help' button and a link to the manual are also visible.

Management	System Settings	Firmware Upgrade	Configuration	Tools	Language	Log Settings	Logout
<b>Login Account</b>							
User Name	admin						
Current Password	.....						
New Password	.....						
Re-type Password	.....						
Idle Time Out (60-3600)	300 seconds (0: No timeout)						
<b>Remote Management</b>							
Enabled	<input type="checkbox"/>						
IP Address	0.0.0.0						
Port	8080						
OK Cancel							

#### Login Account

Set a password if you wish to restrict management access to the Broadband Router.

#### Remote Management

To manage the Broadband Router from a remote location (outside of the local network), you must specify the IP address of the remote PC. Leave the IP address as 0.0.0.0, to allow open access to the router.

### 3.3.2 System Settings

The screenshot shows the 'System Settings' page in a router's web interface. The navigation menu at the top includes 'Quick Setup', 'Admin', 'WAN', 'LAN', 'NAT', 'Firewall', 'Routing', 'QoS', 'Misc', and 'Stat'. Below the menu, the 'System Settings' section is active, showing the following configuration options:

- Time**
  - NTP Server (IP or Domain name): [ ] (Optional)
  - Time Zone: (GMT+08:00) Hong Kong, Perth, Singapore, Taipei [v]
  - Daylight Saving:  Enabled From FEB [v] 2 [v] to FEB [v] 2 [v]
- Name**
  - Host Name: router [ ]
- Operating Mode**
  - NAPT:  Enabled
- Function Mode**
  - Router [v]

At the bottom of the page, there are 'OK' and 'Cancel' buttons.

**NTP Server:** Set the router to the Internet through the NTP protocol to obtain the correct time and maintained.

**Time Zone:** Select the time zone of the country you are in. The router will set the time based on your selection.

**Daylight Saving:** The router can also take Daylight Saving into account. If you wish to use this function, you must check/tick the enable box to enable your daylight saving configuration.

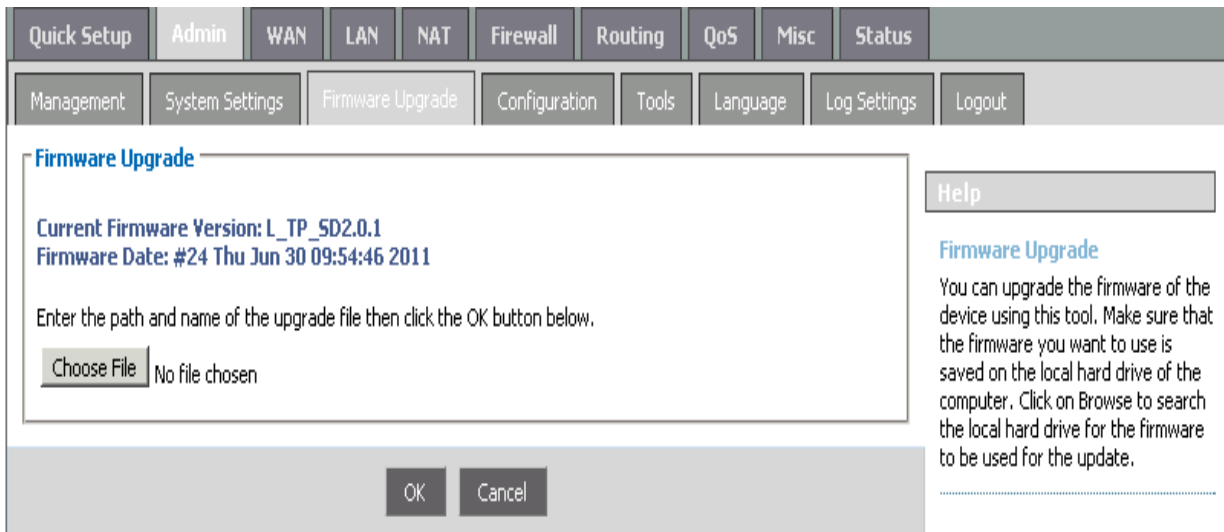
**Host Name:** Enter a hostname provided by the ISP

**NAPT:** Multiple internal addresses mapped to a valid public address, but different protocols and port numbers corresponding to different internal addresses.

**Function Mode:** Default setting is Router.

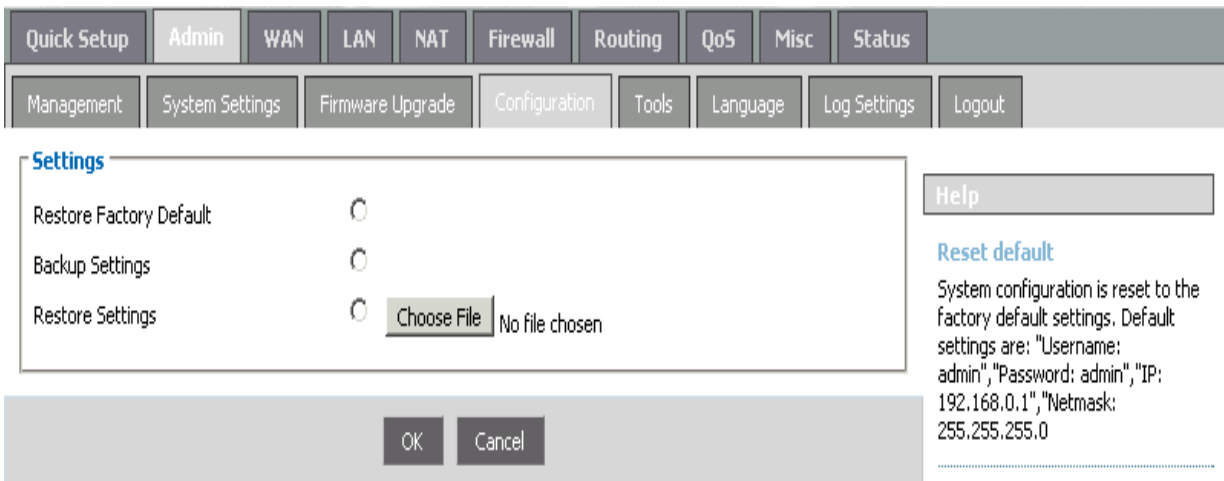
### 3.3.3 Firmware Upgrade

User uses the Firmware Upgrade window to locate the new firmware then upgrade the system firmware. Click "Choose File" button to search for the new firmware location, then click **OK** to proceed the upgrade.



### 3.3.4 Configuration

Use this window to restore or backup Broadband Router settings, such as Restore Factory Default, Backup Settings and Restore Settings.



**Restore Factory Default:** Reset the settings of this device to the factory default values.

**Backup Settings:** Save the settings of this device to a file.

**Restore Settings:** Restore the settings of this device to the backup settings.

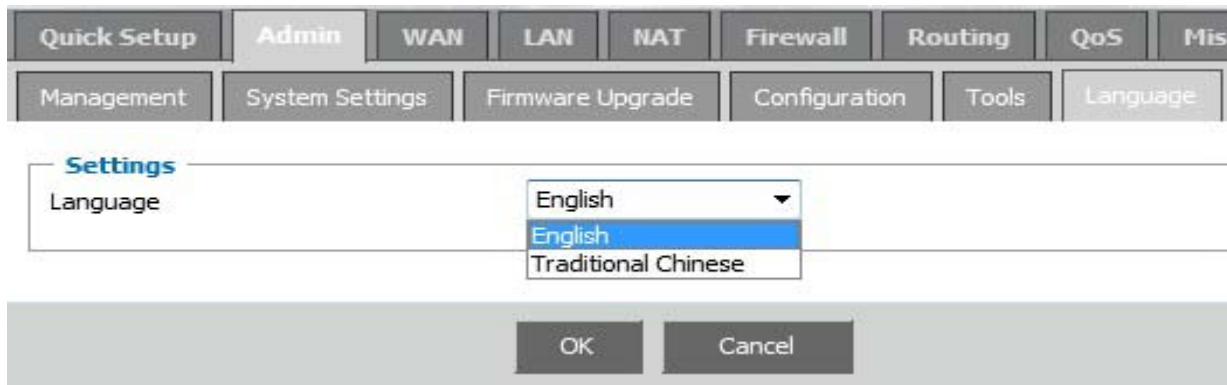
### 3.3.5 Tools



**Restart Device:** Reboot this device.

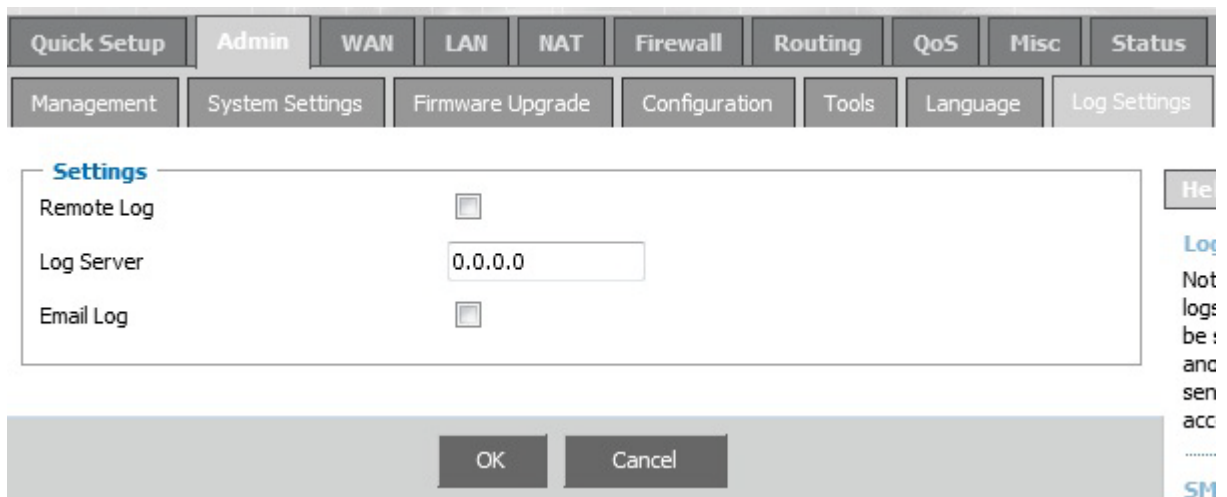
### 3.3.6 Language

You can choose English or Traditional Chinese.



### 3.3.7 Log Settings

The log is very important for network safety, it recorded a variety things of system every day, you can check the error occurred, or track the Internet traffic.



**Remote Log:** Allow remote login View Log.

**Log Server:** Type the IP address of Log Server.

**Email log:** Check to enable the email log feature.

**Send Email:** Click on the "Send" button to send the mail immediately.

**Sender Email Address:** Enter the sender email address.

**Receiver Email Address:** Enter the receiver email address.

**SMTP Server:** Enter outgoing mail server.

**Enable Authentication:** Check if need for authentication.

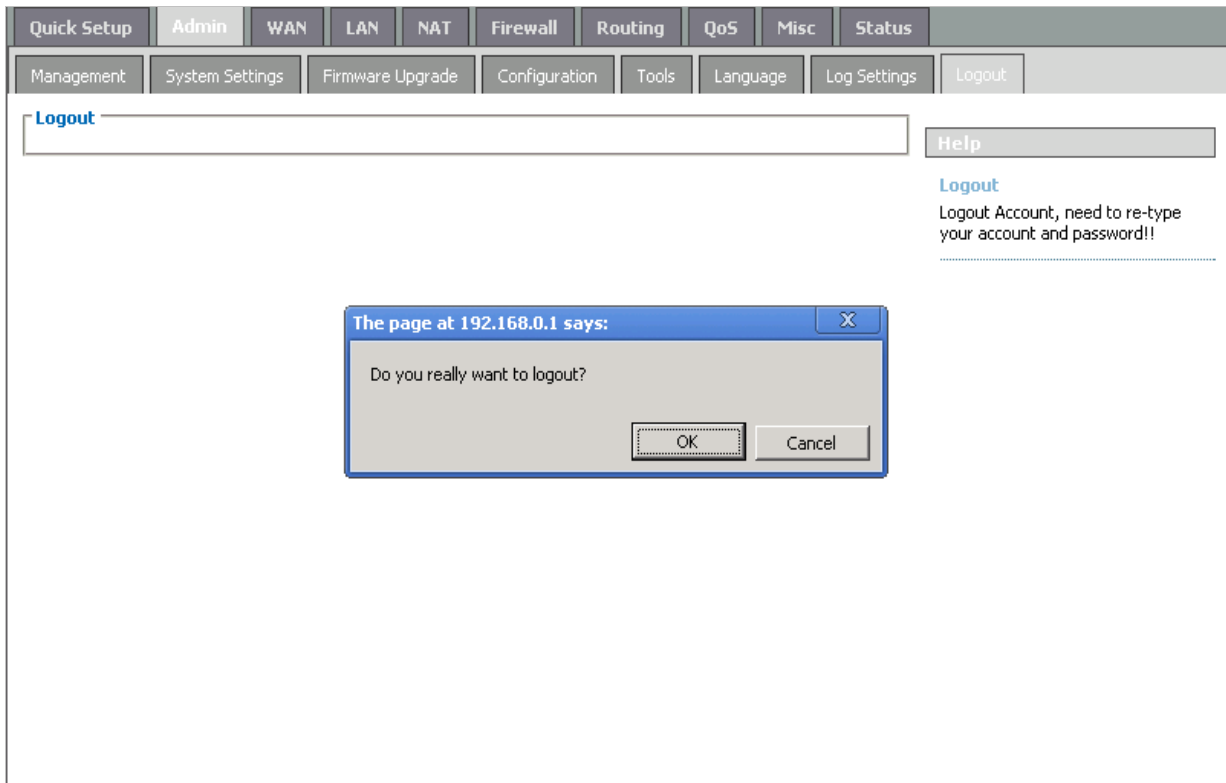
**Account Name:** Fill in email user account name.

**Password:** Enter password.

**Re-type Password:** Re-enter the above password.

### 3.3.8 Logout

If want to logout, please click OK.





## 3.4 WAN

### 3.4.1 WAN Connection Mode

Select properly Internet Connection type.

Quick Setup Admin **WAN** LAN NAT Firewall Routing QoS Misc Sta

WAN Mode

**WAN Connection Mode**

- Dynamic IP Address Obtain an IP address automatically from your service provider.
- Static IP Use a static IP address. Your service provider gives a static IP address to access Internet services.
- PPPOE PPP over Ethernet is a common connection method used for xDSL.
- PPTP PPP Tunneling Protocol can support multi-protocol Virtual Private Networks (VPN).
- LZTP Layer 2 Tunneling Protocol can support multi-protocol Virtual Private Networks (VPN).
- BigPond Australia ISP service.

#### 1 Dynamic IP Address

The Host Name is optional, but may be required by some ISPs. The default MAC address is set to the WAN's physical interface on the router. Use this address when registering for configuration parameters for the selected connection type. The MTU feature specifies the largest packet size permitted for network transmission. By default, MTU is set at 1500. You can use the "Clone MAC" button to copy the MAC address of the Ethernet Card installed by your ISP and replace the WAN MAC address with this MAC address.

**Dynamic IP Address**

Request IP address

MTU(576-1500)

Static DNS Server

Primary DNS

Secondary DNS  (Optional)

MAC Cloning  Enabled

MAC Address (XX:XX:XX:XX:XX:XX)

## 2 Static IP

If your Internet Service Provider has assigned a fixed address, enter the assigned IP address and subnet mask, then enter the gateway and DNS address.

**WAN Static IP**

**Static IP Address**

IP Address	<input type="text" value="0.0.0.0"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway IP	<input type="text" value="0.0.0.0"/>
MTU (576-1500)	<input type="text" value="1500"/>
Static DNS Server	<input checked="" type="checkbox"/>
Primary DNS	<input type="text" value="132.17.19.80"/>
Secondary DNS	<input type="text" value="187.18.85.23"/> (Optional)
MAC Cloning	<input type="checkbox"/> Enabled
MAC Address (XX:XX:XX:XX:XX:XX)	<input type="text" value="00:00:00:00:00:00"/> <input type="button" value="Clone MAC"/>

**More IP addresses**

Does ISP provide more IP addresses?

### 3 PPPoE (PPP over Ethernet)

Enter the PPPoE user name and password assigned by your Service Provider. The Service Name is normally optional, and may be required by some service providers. Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained when it is inactive. If the connection is inactive for longer than the defined Maximum Idle Time, then it will be dropped. You can enable the Auto-reconnect option to automatically reestablish the connection as soon as you attempt to access the Internet again.

**PPPOE**

Address Mode	<input checked="" type="radio"/> Dynamic PPPoE <input type="radio"/> Static PPPoE
IP Address	<input type="text"/>
PPPOE Account	<input type="text"/>
PPPOE Password	<input type="password"/>
Please retype your password	<input type="password"/>
Service Name	<input type="text"/>
MTU (546-1492)	<input type="text" value="1492"/>
Maximum Idle Time (60-3600)	<input type="text" value="300"/> seconds (0: No timeout)
Connection Mode	<input type="text" value="keep-alive"/> ▼
Static DNS Server	<input type="checkbox"/>
Primary DNS	<input type="text" value="132.17.19.80"/>
Secondary DNS	<input type="text" value="187.18.85.23"/> (Optional)
MAC Cloning	<input type="checkbox"/> Enabled
MAC Address (XX:XX:XX:XX:XX:XX)	<input type="text" value="00:00:00:00:00:00"/> <input type="button" value="Clone MAC"/>

#### 4 PPTP (Point-to-Point Tunnel Protocol)

The PPTP window allows user to configure basic PPTP settings for the router.

### WAN PPTP

#### WAN Interface Settings

WAN Interface IP	Static IP ▼
IP Address	0.0.0.0
Subnet Mask	255.255.255.0
Gateway	0.0.0.0
Static DNS Server	<input type="checkbox"/>
Primary DNS	132.17.19.80
Secondary DNS	187.18.85.23 (Optional)
MAC Cloning	<input type="checkbox"/> Enabled
MAC Address (XX:XX:XX:XX:XX:XX)	00:00:00:00:00:00 <span>Clone MAC</span>

#### PPTP Settings

PPTP Account	<input type="text"/>
PPTP Password	●●●●●●
Please retype your password	●●●●●●
PPTP Server (IP or Domain name)	0.0.0.0
Connection ID	<input type="text"/> (Optional)
MTU (546-1460)	1460
Maximum Idle Time (60-3600)	300 seconds (0: No timeout)
Connection Mode	keep-alive ▼

PPTP is dial-up used to establish a virtual private network (VPN) approach, which needs three parts of information. First is the WAN port's IP address and subnet mask. The second is to connect back to the PPTP server IP address. The third is the dial-up user name and password.

## 5 L2TP

The L2TP window allows user to configure basic L2TP settings for the router.

**WAN L2TP**

**WAN Interface Settings**

WAN Interface IP	Static IP
IP Address	0.0.0.0
Subnet Mask	255.255.255.0
Gateway	0.0.0.0
Static DNS Server	<input type="checkbox"/>
Primary DNS	132.17.19.80
Secondary DNS	187.18.85.23 (Optional)
MAC Cloning	<input type="checkbox"/> Enabled
MAC Address (XX:XX:XX:XX:XX:XX)	00:00:00:00:00:00 <b>Clone MAC</b>

**L2TP Settings**

L2TP Account	<input type="text"/>
L2TP Password	••••••
Please retype your password	••••••
L2TP Server (IP or Domain name)	0.0.0.0
MTU (546-1460)	1460
Maximum Idle Time (60-3600)	300 seconds (0: No timeout)
Connection Mode	keep-alive

## 6 Big Pond

The Big Pond window allows user to configure basic BigPond settings for the router.  
(BigPond is an ISP in Australia)

**BigPond**

BigPond Account	<input type="text"/>
BigPond Password	<input type="text"/>
Please retype your password	<input type="text"/>
BigPond Server (IP or Domain name)	<input type="text"/>
Request IP address	<input type="text"/>
MTU (576-1500)	1500
Static DNS Server	<input type="checkbox"/>
Primary DNS	132.17.19.80
Secondary DNS	187.18.85.23 (Optional)
MAC Cloning	<input type="checkbox"/> Enabled
MAC Address (XX:XX:XX:XX:XX:XX)	00:00:00:00:00:00 <b>Clone MAC</b>

## 3.5 LAN

### 3.5.1 LAN Settings

Configure the gateway address of the router. To dynamically assign the IP address for clients' PCs, enable the DHCP Server, set the lease time, and then specify the address range.

Valid IP addresses consist of four numbers, which are separated by periods. The first three fields are the network portion ranging from 0 to 255, while the last field is the host portion ranging from 1 to 254.

The screenshot shows the LAN Settings configuration page. At the top, there is a navigation bar with tabs for Quick Setup, Admin, WAN, LAN (selected), NAT, Firewall, Routing, QoS, Misc, and Status. Below the navigation bar, there are sub-tabs for LAN Settings (selected), DHCP Client List, and IGMP Snooping. The main content area is titled "Settings" and contains the following fields:

IP Address	192.168.0.1
Subnet Mask	255.255.255.0
The Gateway acts as DHCP Server	<input checked="" type="checkbox"/> Enabled
IP Pool Starting Address	192.168.0. <input type="text" value="2"/>
IP Pool Ending Address	192.168.0. <input type="text" value="254"/>
Lease Time	Eight hours ▼
DNS Proxy	<input checked="" type="checkbox"/> Enabled

At the bottom of the page, there are two buttons: OK and Cancel.

**IP address:** This is the router's LAN port IP address (Your LAN clients' default gateway IP address).

**Subnet Mask:** Specify a Subnet Mask for your LAN segment.

**The Gateway acts as DHCP Server:** Check to enable the DHCP server.

**IP Pool Starting Address:** Enter the first IP address assigned by the DHCP server.

**IP Pool Ending Address:** Enter the last IP address assigned by the DHCP server.

**Lease Time:** Enter the amount of time that a client can use the assigned IP address.

**DNS Proxy:** Check to enable the DNS Proxy.

### 3.5.2 DHCP Client List

The DHCP client list allows you to see which clients are connected to the router via IP address, host name, and MAC address.



**DHCP Client List**

Host Name	IP Address	MAC Address	Remaining Time	Static
johnsonwar	192.168.0.2	00:18:F3:7A:76:40	07:55:23	<input type="checkbox"/>

**Refresh**

**Static Client Configuration**

Host Name

IP Address 192.168.0.

MAC Address (XX:XX:XX:XX:XX:XX)  **Add**



**DHCP Client List:** This page shows all DHCP clients (LAN PCs) currently connected to your network. It displays the IP address and the MAC address and Remaining Time of each LAN client. Use the Refresh button to get the lately updated situation.

### 3.5.3 IGMP Snooping

Allowing switched Ethernet to check and make correct forwarding decisions.



**Settings**

IGMP Snooping  Enabled



## 3.6 NAT

### 3.6.1 Virtual Server

If you configure the router for a virtual server, remote users access services such as Web or FTP at your local site from internet the traffic can be automatically redirected to local servers configured as the virtual server. In other words, depending on the requested service (TCP/UDP port number), the router redirects the external service request to the appropriate server.

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS
Virtual Server	Port Triggering	Port Mapping	Passthrough	DMZ			

---

**Settings**

Enabled

Private IP 192.168.0.

Private Port

Public Port Type TCP

Comment

Add Modify

Rules Listing 0/

Comment	Private IP	Private Port	Public Port

OK Cancel

**Enabled:** Enable Virtual Server.

**Private IP:** This is the LAN client/host IP address being used by the virtual server within your local network.

**Private Port:** This is the LAN client/host port number being used by the application on the computer within your local network.

**Public Port:** Enter the service (service/Internet application) port number that will be re-directed to the virtual server on your local network.

**Type:** Select the Internet protocol type (TCP, UDP or both). If you are not sure, leave it to be the default both protocols.

**Comment:** The description of this setting.

### 3.6.2 Port Triggering

Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications cannot work when Network Address Translation (NAT) is enabled. If you need to run applications that require multiple connections, specify the port associated with an application in the "Trigger Port" outgoing port field, select the protocol type as TCP or UDP, then enter the public ports incoming port associated with the trigger port to open them for inbound traffic.



Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS
Virtual Server	Port Triggering	Port Mapping	Passthrough	DMZ			

---

**Settings**

Enabled

Trigger Port  ~

Trigger Type

Public Port  ~

Type

Comment

Rules Listing 0/

Comment	Trigger Port	Public Port

### 3.6.3 Port Mapping

This function allows one or more public IP addresses to be shared by multiple internal users. Enter the Public IP address you desire to share into the Global IP field. Enter a range of internal IP that will share the global IP.

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS
Virtual Server	Port Triggering	Port Mapping	Passthrough	DMZ			

---

**Settings**

Enabled

Comment

Server IP 192.168.0.

Mapping Ports (port1, port2, port3-port4...) Type

Rules Listing 0/

Comment	Server IP	Mapping Ports

### 3.6.4 Passthrough

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS
Virtual Server	Port Triggering	Port Mapping	Passthrough	DMZ			

---

**VPN**

PPTP passthrough

Ipssec passthrough

L2TP passthrough

---

**FTP**

Non-Standard FTP Port (0-65535)

---

**NetMeeting**

H323/Netmeeting passthrough

---

OK Cancel

**VPN:** VPN including PPTP, IPSEC and L2TP, if checked, the internal network and external network can directly establish a corresponding VPN services, without NAT affect

**FTP:** FTP server with non-standard port, can prevent the conflict which has established a connection with fit data channel

**NetMeeting:** The internal network NetMeeting services establish connections directly with external network NetMeeting services, without NAT affect

### 3.6.5 DMZ

If you have a client PC that cannot run Internet application properly from behind the NAT firewall or after configuring the Special Applications function, then you can open the client up to unrestricted two-way Internet access. Enter the IP address of a DMZ host to this screen. Adding a client to the DMZ (Demilitarized Zone) may expose your local network to a variety of security risks, so you can only use this option as a last resort.

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS
Virtual Server	Port Triggering	Port Mapping	Passthrough	DMZ			

---

**Settings**

Enabled

Public IP Address

IP Address of Virtual DMZ Host

Get current LAN IP automatically

Add Modify

---

Rules Listing

Public IP Address	IP Address of Virtual DMZ Host

---

OK Cancel

## 3.7 Firewall

### 3.7.1 Firewall Options

The router provides extensive firewall protect by restricting connections to reduce the risk of intrusion and defending against a wide array of common hacker attacks. However for applications that require unrestricted access to the Internet, you can configure a specific client/server as a demilitarized zone.

Firewall Options Select the functions that firewall supports. The selections include Enable Hacker Attack Protect ,Discard PING from WAN side, Deny PING to the Gateway, Drop Port Scan packets, Allow to Scan Security Port (113),Discard NetBIOS Packets, Accept Fragment Packets and Send ICMP Packets When Error is Encountered.

The screenshot shows the 'Firewall' configuration page in a router's web interface. The 'Firewall' tab is selected, and the 'Firewall Options' sub-tab is active. The 'Settings' section is expanded to show the 'Options' configuration. The 'Enabled' checkbox is checked. The 'Options' section contains a list of security features with checkboxes and input fields.

Options	
Discard PING from WAN side	<input type="checkbox"/>
Deny PING to the Gateway	<input type="checkbox"/>
Detection Port Scan Packets	<input checked="" type="checkbox"/>
Deny to Scan Security Port (113)	<input checked="" type="checkbox"/>
Discard NetBios Packets	<input type="checkbox"/>
Deny Fragment Packets	<input type="checkbox"/>
Disable ICMP Packets When Error is Encountered	<input type="checkbox"/>
IP Spoofing	<input checked="" type="checkbox"/>
Smurf Attack	<input checked="" type="checkbox"/>
Ping of Death	<input checked="" type="checkbox"/>
Land Attack	<input checked="" type="checkbox"/>
Snork Attack	<input checked="" type="checkbox"/>
UDP Port Loop	<input checked="" type="checkbox"/>
TCP Null Scan	<input checked="" type="checkbox"/>
TCP Syn Flood	<input type="checkbox"/>
Syn Threshold	<input type="text" value="300"/> packets per second (1-3000)
ICMP Flood	<input type="checkbox"/>
Ping Threshold	<input type="text" value="300"/> packets per second (1-3000)

Buttons: OK, Cancel

### 3.7.2 Client Filtering

You can filter Internet client based on IP addresses, port, application types, and time of day.

For example, this screen shows that clients in the address rang 192.168.0.2-4 are permanently restricted from using WEB(Port 80) are blocked from browsing the Internet from Monday through Friday.

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS	Misc	Sta										
Firewall Options	Client Filtering	URL Filtering	MAC Filtering																
<b>Settings</b>																			
Enable Client Filter	<input checked="" type="checkbox"/>																		
Enable	<input checked="" type="checkbox"/>																		
IP Address	192.168.0. <input type="text" value="2"/> ~ <input type="text" value="4"/>																		
Port	<input type="text" value="80"/> ~ <input type="text" value="80"/>																		
Type	TCP																		
Block Time	<input type="radio"/> Always <input checked="" type="radio"/> Block																		
Day	<input type="checkbox"/> SUN <input checked="" type="checkbox"/> MON <input checked="" type="checkbox"/> TUE <input checked="" type="checkbox"/> WED <input checked="" type="checkbox"/> THU <input checked="" type="checkbox"/> FRI <input type="checkbox"/> SAT																		
Time	<input type="text" value="Always"/> ~ <input type="text" value="Always"/>																		
Comment	<input type="text"/>																		
									<input type="button" value="Add"/> <input type="button" value="Modify"/>										
Rules Listing	0/20(using/max)																		
<table border="1"> <thead> <tr> <th>IP Address</th> <th>PortType</th> <th>Block Time</th> <th>Comment</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td colspan="5"> </td> </tr> </tbody> </table>										IP Address	PortType	Block Time	Comment	Action					
IP Address	PortType	Block Time	Comment	Action															
<input type="button" value="OK"/> <input type="button" value="Cancel"/>																			

- IP Address:** Enter the starting/ending IP address.
- Port:** Enter the port range based over the protocol for access policy.
- Type:** Select one protocol (TCP/UDP/Both) from the drop-down menu.
- Block Time:** Always or manually set the filter time.
- Day:** Select the day(s) to run the access policy.
- Time:** Select the time range of client filter.
- Comment:** You can add some comment for this item.

### 3.7.3 URL Filtering

To configure the URL Filtering feature, please specify the web sites and/or web URLs containing the keyword you want to filter on your network. You can deny or allow Internet access for the URL addresses.

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS	Misc	Sta						
Firewall Options	Client Filtering	URL Filtering	MAC Filtering												
<b>Settings</b>															
URL Filter Control	Deny Internet access for the following URL addresses														
IP Address	192.168.0. <input type="text" value="100"/> ~ <input type="text" value="200"/>														
URL filter string	<input type="text" value="www.google.com"/>														
Enable	<input checked="" type="checkbox"/>														
									<input type="button" value="Add"/> <input type="button" value="Modify"/>						
Rules Listing	0/20(using/max)														
<table border="1"> <thead> <tr> <th>IP Address</th> <th>URL filter string</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td colspan="3"> </td> </tr> </tbody> </table>										IP Address	URL filter string	Action			
IP Address	URL filter string	Action													
<input type="button" value="OK"/> <input type="button" value="Cancel"/>															

For example, in this screen you can see that clients in the address rang 192.168.0.100-200 are unable to browsing the sites ([www.google.com](http://www.google.com)).

### 3.7.4 MAC Filtering

The MAC address filter enables you to allow or restrict specified nodes from communicating with other nodes.

The screenshot shows the 'MAC Filtering' configuration page. At the top, there are navigation tabs: Quick Setup, Admin, WAN, LAN, NAT, Firewall (selected), Routing, QoS, Misc, and Stat. Below these are sub-tabs: Firewall Options, Client Filtering, URL Filtering, and MAC Filtering (selected). The main content area is titled 'Settings' and contains a dropdown menu for 'MAC Address Control' set to 'Deny Internet access for the following MAC addresses'. Below this are input fields for 'MAC Address (XX:XX:XX:XX:XX:XX)' and 'Comment', followed by 'Add' and 'Modify' buttons. A 'Rules Listing' section shows '0/20(using/max)' rules. A table header is visible with columns for 'MAC Address', 'Comment', and 'Action'. At the bottom of the page are 'OK' and 'Cancel' buttons.

**MAC Address Control:** The device's MAC address that you want to filter.

**Comment:** You can add some comment for this item.

## 3.8 Routing

### 3.8.1 Routing Table

The Routing Table window displays the current routing information in the system.

The screenshot shows the 'Routing Table' configuration page. At the top, there are navigation tabs: Quick Setup, Admin, WAN, LAN, NAT, Firewall, Routing (selected), QoS, Misc, and Stat. Below these are sub-tabs: Routing Table (selected), Static Routing, and Dynamic Routing. The main content area is titled 'Routing Table List' and contains a table with three columns: 'Destination Network IP', 'Subnet Mask', and 'Gateway IP'. The table has one row with the following values: 192.168.0.0, 255.255.255.0, and 192.168.0.0. Below the table is a 'Refresh' button.

Destination Network IP	Subnet Mask	Gateway IP
192.168.0.0	255.255.255.0	192.168.0.0

### 3.8.2 Static Routing

A static route is a pre-determined pathway that network information must travel to reach a specific host or network.

The screenshot shows a network management interface with a top navigation bar containing tabs for Quick Setup, Admin, WAN, LAN, NAT, Firewall, Routing, and QoS. Below this, there are sub-tabs for Routing Table, Static Routing, and Dynamic Routing. The 'Static Routing' sub-tab is active, displaying the 'Static Routes Configuration' window. This window has three input fields: 'Destination Network IP', 'Subnet Mask', and 'Gateway IP'. Below these fields are 'Add' and 'Modify' buttons. At the bottom of the window, there is a table with three columns: 'Destination Network IP', 'Subnet Mask', and 'Gateway IP'. Below the configuration window, there are 'OK' and 'Cancel' buttons.

**Destination Network IP:** The network address of destination network.

**Subnet Mask:** the subnet mask of destination network.

**Gateway IP:** The next stop gateway of the path toward the destination network. This is the IP of the neighbor router that this router should communicate with on the path to the destination network.

### 3.8.3 Dynamic Routing

Dynamic Routing can be used to cache routes learned by routing protocols, thus allowing the automation of static routing maintenance. The router, using the RIP (Routing Information Protocol), determines the network packet's route based on the fewest number of hops between the source and the destination. In this case, you can automatically adjust to physical changes in the network layout.

The screenshot shows a network management interface with a top navigation bar containing tabs for Quick Setup, Admin, WAN, LAN, NAT, Firewall, Routing, QoS, and Misc. Below this, there are sub-tabs for Routing Table, Static Routing, and Dynamic Routing. The 'Dynamic Routing' sub-tab is active, displaying the 'Dynamic Routing' configuration window. This window has a checkbox for 'Enable Dynamic Routing' which is checked. Below this are three dropdown menus: 'Working Mode' set to 'Router', 'Listen Mode' set to 'RIP1', and 'Supply Mode' set to 'RIP2 (Broadcast)'. At the bottom of the window, there are 'OK' and 'Cancel' buttons.

**Working Mode:** Select the router acts as router of gateway.

**Listen Mode:** Enable this mode to allow RIP server to receive routing information and update the routing information.

**Supply Mode:** Enable this mode to allow RIP server to send out routing information and update the routing information.

### 3.9 QoS

QoS (Quality of Service) is a major issue in VOIP implementations. The issue is how to guarantee that packet traffic for a voice or other media connection will not be delayed or dropped due interference from other lower priority traffic.

#### Port Base:

The screenshot shows a configuration window for QoS. At the top, there are tabs for 'Quick Setup', 'Admin', 'WAN', 'LAN', 'NAT', 'Firewall', 'Routing', 'QoS', and 'Misc'. The 'QoS' tab is active, and a sub-tab 'Qos Mode' is selected. Below this, the 'Qos Mode' section has two radio buttons: 'Port Base' (selected) and 'DSCP Base'. The 'Port Base' option is described as 'Rate control by Physical port', while 'DSCP Base' is 'Rate control by DSCP value'. The 'Settings' section below has a checkbox for 'Enable Port rate Control' which is checked. Underneath, there are five rows for 'LAN-1', 'LAN-2', 'LAN-3', 'LAN-4', and 'WAN'. Each row has a text input field containing '0' and the unit 'kbps' to its right. At the bottom of the window are 'OK' and 'Cancel' buttons.

In order to complete this settings, please follow the steps below.

Enable this function.

Select the port number.

Enter the total speed with the port number.

Click **OK** button to add this item to control table.

#### DSCP Base:

DSCP replaces the outdated IP precedence, a 3-bit field in the Type of Service byte of the IP header originally used to classify and prioritize types of traffic

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS	Misc	Sta								
Qos Mode																	
<b>Qos Mode</b> <input type="radio"/> Port Base      Rate control by Physical port <input checked="" type="radio"/> DSCP Base      Rate control by DSCP value																	
<b>Settings</b> Enable DSCP <input checked="" type="checkbox"/> High queue weight <input type="text" value="8"/> (1-15) Medium queue weight <input type="text" value="4"/> (1-15) Low queue weight <input type="text" value="2"/> (1-15)																	
Enable Rule <input type="checkbox"/> DSCP value <input type="text"/> (0-63) Queue map <input type="text" value="Low Priority"/> Description <input type="text"/> <input type="button" value="Add"/> <input type="button" value="Modify"/>																	
Rules Listing <span style="float: right;">0/10(using/max)</span>																	
<table border="1"> <thead> <tr> <th>DSCP value</th> <th>Queue map</th> <th>Description</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>										DSCP value	Queue map	Description	Action				
DSCP value	Queue map	Description	Action														

## 3.10 Misc

### 3.10.1 UPnP

UPnP (Universal Plug and Play) allows automatic discovery and configuration of equipment attached to your LAN.

UPnP is supported by Windows ME, XP, or later. It provides compatibility with networking equipment, software and peripherals of over 400 vendors the cooperate in the Plug and Play forum. You can Enable or Disable UPnP feature here.

Quick Setup	Admin	WAN	LAN	NAT	Firewall	Routing	QoS	Misc												
UPnP																				
<b>Settings</b> Enable UPnP <input checked="" type="checkbox"/> Enabled Advertise Time (60-1800) <input type="text" value="1800"/> Refresh Port Mapping <input type="button" value="Refresh"/>																				
<table border="1"> <thead> <tr> <th>Remote Host</th> <th>External Port</th> <th>Internal Client</th> <th>Internal Port</th> <th>Protocol</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>									Remote Host	External Port	Internal Client	Internal Port	Protocol	Description						
Remote Host	External Port	Internal Client	Internal Port	Protocol	Description															
<input type="button" value="OK"/> <input type="button" value="Cancel"/>																				



### 3.10.2 DDNS

DDNS (Dynamic DNS) provides you on the Internet with a method to tie their domain name to a computer or server. DDNS allows your domain name to follow your IP address automatically by changing your DNS records when your IP address changes.

### 3.11 Status

This section displays the basic configuration parameters of your router, such as System Status, System Settings, Administrator Settings, Firmware Upgrade, Configuration Tools and System Log. Although most users will be able to accept the default settings, every ISP is different. Please check with your ISP if you are not sure which settings the ISP requires.

#### 3.11.1 Status

You can use the Status screen to see the connection status for the router's LAN interfaces, firmware and hardware version numbers, and the number of connected clients to your network.

### 3.11.2 Log

The System Log window displays the router's system activities, such as System Log and Security Log.

Quick Setup
Admin
WAN
LAN
NAT
Firewall
Routing
QoS
Misc
Status

Status
Log

System Log
Help

First Page
Prev Page
Next Page
Last Page

No.	Time	Record
1	Thu Jan 01 08:00:00 1970	[System]System start
2	Thu Jan 01 08:00:00 1970	[System]Ver L_TP_SD2.0.1 #24 Thu Jun 30 09:54:46 2011
3	Thu Jan 01 08:00:19 1970	[DHCPS]RX DISCOVER by 00:18:F3:7A:76:40
4	Thu Jan 01 08:00:19 1970	[DHCPS]TX OFFER of 192.168.0.2
5	Thu Jan 01 08:00:19 1970	[DHCPS]RX REQUEST by 00:18:F3:7A:76:40
6	Thu Jan 01 08:00:19 1970	[DHCPS]TX ACK to 192.168.0.2
7	Thu Jan 01 08:00:23 1970	[DHCPS]RX INFORM by 192.168.0.2
8	Thu Jan 01 08:32:38 1970	[DHCPS]Message repeat 4 times
9	Thu Jan 01 08:32:38 1970	[DHCPS]RX REQUEST by 00:18:F3:7A:76:40
10	Thu Jan 01 08:32:38 1970	[DHCPS]TX ACK to 192.168.0.2
11	Thu Jan 01 08:32:42 1970	[DHCPS]RX INFORM by 192.168.0.2

Download
Clear
Settings
Refresh

**Log**  
The k  
even  
devic  
log fil  
Wher  
logs a  
.....



## **LKR-604 configuration is now complete**

For detailed information regarding the LKR-604's configuration and advanced settings, please refer to the User's Manual on the CD-ROM, or go to Linkskey website at <http://www.linkskey.com>



## **Certifications**

This equipment has been tested and found to comply with FCC and CE Rules.

Operation is subject to the following two conditions:

- 1.This device may not cause harmful interference.
- 2.This device must accept any interference received, including interference that may cause undesired operation.



Waste electrical and electronic products must not be disposed of with household waste. Please recycle where facilities exist. Check with you Local Authority or Retailer for recycling advice.



**TECHNICAL SUPPORT**

**E-mail: [btitech@linkskey.com](mailto:btitech@linkskey.com)**

**Website:[www.linkskey.com](http://www.linkskey.com)**